

Office of the Secretary

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Special Modifications in M-161 for a Smaller Cryptograph.

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pursuant to E.O. 13526

This is to make a record of the date of conception of a combination of elements for a small field cryptograph based upon the M-161 principle.

1. Have a keyboard using a 5 or 6-element code in pairs, yielding a set of 25 or 36 equivalents, respectively. (Each key of keyboard controls two circuits, as in old electrical Swedish cryptograph.)
2. Have a set of 5 or more cryptographic rotors in ~~the~~ cascade. Each rotor has two concentric rings of contacts, each ring has 5 (or 6) contacts (depending upon whether a 25 or a 36-character alphabet is adopted for ~~the~~ use in this system.) The circuits in the respective rings are kept within the respective rings, even though they zigzag through the rings.
3. Have end and intermediate 2-ring stators conformable to the type of rotors described in Par. 2
4. The ^{two} circuits ^{for each letter or character} emerging from final or end stator are recombined in

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the usual manner ~~to~~ into cipher characters, and are printed by a printer based upon the 5 or 6-element code. [The two coordinates are combined in a system of 25 (or 36) combinations operating a set of 25 (or 36) solenoids or magnets.]

5. The principal idea in this invention is that of the 5 or 6 element ^{passing through} code, the double ring ~~two~~ rotors, and the recombination of the circuits in the final printing to represent cipher characters.

Disclosed to us:

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